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QUERCUS HETEROPHYLLA, Michx., BARTRAM'S OAK.—Gray remarks that this oak is apparently a hybrid between *Q. Phellos*, L. and *Q. tinctoria*, Bartram. Some years ago I discovered a tree in Shelby County, Mo., where it somewhat resembled *Q. palustris*, Du Roi. I also discovered a small tree in De Kalb County, and two years ago another in Sullivan County. Other oaks growing near by at the latter place were *Q. tinctoria*, Bart., *Q. imbricaria*, Mx and *Q. nigra*, L. The leaves present all forms from an almost entire leaf to a lobed one, their margin often only sinuate. If, as Gray suggests, it may be a hybrid, the general resemblance to forms of *Q. imbricaria*, Mx. and *Q. palustris*, L. seemed immediately apparent to me.—G. C. BROADHEAD, *Pleasant Hill, Mo.*

CALLIRRHOE DIGITATA.—In 1857 I observed this plant growing on a dreary glady magnesian limestone soil in Lawrence County, Mo. I did not again see it growing for sixteen years, but its regal beauty was still present in my memory through the long space of those years. In 1873, passing from the sandy prairies of Barton County, I suddenly found the soil change to a black limestone soil, and with it I found the well remembered beauty of former years—my Callirrhoe. I found it quite abundant on the limestone soil of Jasper County. Its general height is about three feet, with occasional branches six inches to a foot in length, having leaves at their base much resembling those of the *Delphinium*, and beautiful purple flowers of about an inch in length at the end of each branch. It has been found in no part of Missouri but the southwest.—G. C. BROADHEAD.

AN INTERESTING HERBARIUM.—I received a communication during last fall from the officers of the Natural History Society, of New Albany, asking me to come down and arrange the herbarium of Dr. Clapp. I have just returned from spending some two weeks there and must say that I was very much gratified with the treasures turned up, making an invaluable addition to the flora of Indiana. Judging from the labels the collection was made by Dr. Clapp principally in 1835 and 1836. It seems to be very exhaustive for a region of country with a radius of about fifteen miles, having New Albany as a center. As the Falls of the Ohio come within this circle some very local and interesting plants were met with, such as *Psoralea Onobrychis*, Nutt., *P. stipulata*, T. & G., *Vitis indivisa*, Willd., *Aster azureus*, Lindl., *A. Shortii*, Boott., *Solidago Shortii*, T. & G., *S. rupestris*, Raf., the beautiful little *Iris cristata*, Ait. and many others which might be enumerated. Besides, there were some species noted as being found near New Albany that were not included in Gray's Manual. For instance, there were several specimens of *Iris hexagona*, Walt. labeled as growing near the Falls. From what are called the "Barrens" the largest display of *Ericaceæ* and *Orchidaceæ* was obtained that I have ever seen from any locality in Indiana. The Doctor made very liberal collections, especially of desirable plants, and consequently a good stock of duplicates fell into my hands. His specialty seems to have been *Cyperaceæ* and *Gramineæ*, and his herbarium made an exceedingly fine showing in these families, containing a very

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complete set of Dr. Gray's Grasses and Sedges. I was informed by Dr. Sloan, President of the Nat. Hist. Soc., that Dr. Clapp began his botanical investigations when his eyesight had about failed him and he was compelled to do something to engage his attention and keep him in the open air as much as possible. If he had been driven into the study of botany earlier in life he might have established in New Albany an exceedingly fine herbarium, for he had obtained many good exchanges, and was in correspondence with the most eminent botanists of his day. Among other exchanges were sets of plants from Louisiana and Ohio sent by Dr. Riddell. The collection was bundled up at Dr. Clapp's death and the dust of many years was allowed to collect upon it. It remained entirely undisturbed until within a very few years and only now is it in complete order, with modern nomenclature and modern paper, ready for use.—ED.

SOME PLANTS OUT OF THEIR ACCREDITED RANGE.—While in Wisconsin I noticed some plants away from their accredited range. *Isopyrum biternatum*, T. & G. is abundant in the northern part of Walworth County, where also *Cassandra calyculata*, Don. is found in many of the tamarack swamps. *Napæa dioica*, L. has several stations, to my knowledge, in Green County. On the track of the M. & St. P. R. R., between Janesville and Hanover, in Rock County, I found *Cenchrus tribuloides*, L., *Frœlichia Floridana*, Moquin and *Cacalia suaveolens*, L., the latter growing abundantly near the Junction depot at Hanover, far from "rich woods."—HERBERT E. COPELAND, *Indianapolis, Ind.*

ŒNOTHERA SPECIOSA.—This plant is abundant from Jackson County, Missouri, southward, but is not found east. It generally prefers a rich limestone soil of but a few inches thickness resting on limestone. When in full bloom its corolla is often over three inches across, and a bed of these plants, a half acre or more in extent, with their pure white flowers, is very beautiful.—G. C. BROADHEAD.

ON THE SIZE OF FOREST TREES IN JEFFERSON COUNTY, IND.—During the summer of 1873, in the prosecution of some botanical work in Southern Indiana, I was led to observe the size and character of the forest trees by the numerous questions asked me on the subject by the farmers in the region worked up. I here present a condensed view of the results obtained by the measurement of over 1000 trees in Jefferson County. The measure of the diameter was taken three feet above the ground. The numerals in brackets following the name indicate the number of trees measured.

Fagus ferruginea Ait. [400]	Average	diam.,	2	feet	8	in.,	average	height,	65	feet.
Quercus rubra, L. [150]	"	"	3	"	2	"	"	"	69	"
Quercus alba, L. [150]	"	"	3	"	2	"	"	"	69	"
Liriodendron Tulipifera, L. [150]	"	"	3	"	6	"	"	"	87	"
Acer saccharinum, Wang. [100]	"	"	2	"	6	"	"	"	70	"
Acer rubrum, L. [100]	"	"	2	"	6	"	"	"	70	"
Platanus occidentalis, L. [75]	"	"	4	"	9	"	"	"	83	"
Ulmus Americana, Willd. [75]	"	"	3	"	4	"	"	"	70	"
Æsculus glabra, Willd. [50]	"	"	2	"	9	"	"	"	68	"
Æsculus flava, Ait. [50]	"	"	2	"	9	"	"	"	68	"

The largest tree found in the county (*Platanus occidentalis*, L.) measured at the base 13 feet-6 inches Some 10 feet up the trunk the diameter was 8 feet-4 inches, and 25 feet from the ground measured 6 feet. The height of this giant tree could not be ascertained, as it had been broken by storms. *Fagus ferruginea*, Ait. and *Liriodendron Tulipifera*, L. attain a size at times I have not seen equalled in any other part of the state. I have noted several of the latter species between 8 and 10 feet in diameter. Of the former a diameter of 5 feet is not uncommon, and I have two noted that exceed 6 feet. Some few items concerning the numerical relation which the different species bear to one another, will be reserved for subsequent notes.—M. S. COULTER, *Logansport, Ind.*

FERNS OF LEAVENWORTH COUNTY, KANSAS.—The following is a list of the ferns I have found in Leavenworth County, Kansas:

Adiantum pedatum, L.
Aspidium Goldianum, Hook.
Asplenium angustifolium, Michx.
Asplenium Filix-fœmina, R. Br.
Botrychium lunarioides, Swartz.
Botrychium Virginicum, Swartz.
Camptosorus rhizophyllus, Link.
Cystopteris fragilis, Bernh.
Onoclea sensibilis, L.
Onoclea sensibilis, L., var. *obtusilobata*, Torr.
Pellæa atropurpurea, Link.
Woodsia obtusa, Torr.

Adiantum pedatum, L., the most beautiful of all our North American ferns, is very abundant in Leavenworth County, growing luxuriantly on the wooded slopes and in the ravines of the Missouri bluffs, from Wyandotte to Atchison.

Aspidium Goldianum, Hook. is a large and stately fern, but not so graceful as many others, nor plentiful in this neighborhood.

Asplenium angustifolium, Michx. This graceful fern, common enough in some states, is not plentiful in Kansas. I have found it in only a few places in this and Wyandotte Counties, and now that the grand old trees are rapidly disappearing from the romantic ravines and lofty banks of the Missouri river, I am afraid that in a few years my sylvan pets will disappear also.

Asplenium Filix-fœmina, R. Br. I have found only one plant of the elegant Lady fern in this county. It may however be in places that I have not visited, for my fern hunts, although numerous, have not been extensive.

Botrychium lunarioides, Swartz. Of this interesting little plant I have found only a few specimens, growing with *Botrychium Virginicum*, Swartz. which in this county is very abundant, frequently found in shady hazel thickets, its fleshy stipe and thick fibrous roots deeply embedded in the rich vegetable mould. In such localities specimens are to be found fully two feet high.

Camptosorus rhizophyllus, Link. This curious little walking fern is not uncommon with us on the crumbling calcareous rocks that serve as homes for many a thriving colony of this industrious little pedestrian.

Cystopteris fragilis, Bernh. This is the first fern that appears in the spring, and by far the most abundant in Kansas. Sometimes I have noticed it as early as the first of March, pushing its pretty little curly head through the soft vegetable mould, and early in April, on the northern slopes of the Missouri bluffs and along the wooded water-courses you may find them by the acre, full grown ferns quivering in the soft spring sun-light.

Onoclea sensibilis, L. This peculiar looking fern, with its broad sterile frond and fruit-bearing spike, is very common with us. In low, damp situations it is frequently to be seen two and a half feet high. Its delicate light green fronds wilt immediately on being gathered and wither at the slightest touch of frost, hence, probably, its popular name, "Sensitive Fern."

O. sensibilis, L., var. *obtusilobata*, Torr. A few years ago I found within the city limits of Leavenworth a solitary plant of this variety and transplanted it to my out-door fernery, but unfortunately lost it during an unusually dry season.

Pellæa atropurpurea, Link. In keeping with its favorite *habitat*, the weather-beaten faces of limestone rocks, this little evergreen has rather a hard, dry look. It is not uncommon in this county, being often found in company with the *Woodsia obtusa* and "Walking Fern."

Woodsia obtusa, Torr. This beautiful little fern grows abundantly in the vicinity of Leavenworth. With us it is a partial evergreen, and gives out new fronds very late in the season.—JAMES WILSON, *Leavenworth, Kansas.*

SOME EFFECTS OF THE UNUSUAL SEASON.—The month of December, 1875, has been a remarkable one. From the first to the ninth the thermometer recorded here an average temperature of 45 deg. to 50 deg. Then until the nineteenth the temperature fluctuated above and below freezing point, never far from it. From

that date to January 3d, was a period of unprecedented warmth, the thermometer ranging from 40 deg. to 80 deg., with an average of about 50 deg. During that time some of our early plants were induced to put in their appearance and some of our constant bloomers bloomed on. *Lamium amplexicaule* came up in my yard in a vigorous growth, hundreds of purple buds were almost ready to burst and some had opened. *Ornithogalum* and *Narcissus* appeared above the ground two or three inches. Some early roses put out leaves and a few flower buds. *Lonicera sempervirens* had many full grown leaves and any quantity of leaf buds. *Cydonia Japonica* was in full bud and in a few instances in flower. Snapdragons were all in leaf and ready to bloom. And so I might enumerate many other instances of such unseasonable growth. These instances have not been confined to our own section, but word has been received from the more northern counties that the same condition of things prevails there. Prof. Herbert Copeland writes from Indianapolis that he "found *Capsella Bursa-pastoris* in blossom December 31st, near Fall creek in Marion County "—ED.

SOME INTERESTING CRYPTOGAMS FOUND NEAR PAINESVILLE, OHIO.—From a recent letter received from Dr. H. C. Beardslee, of Painesville, Ohio, I feel free to make the following extract:

"In 1872 I discovered a moss, the *Discelium nudum*, Dickson, a species not uncommon in Europe but first detected in the United States by myself. In 1873 I detected *Fissidens hyalinus*, Hook. & Wilson, which was found near Cincinnati, Ohio, in 1832 by Mr. T. G. Lea and which had been detected nowhere else. It was regarded by Sullivant and Lesquereux as lost and dropped from their Catalogue of 1865. In the fall of 1874 I discovered *Riccia Frostii*, Austin, a Rocky Mountain species discovered in 1873. I found it only sparingly. It is a matter of some surprise that this new Rocky Mountain species should occur here at home."—ED.

SOME PLANTS NOTED IN CARROLL COUNTY, INDIANA.—While spending a few weeks in July in Carroll County, in the northern part of the state, I was much pleased with the region in a botanical point of view. My interest did not arise so much from the plants actually collected as from the seeming capabilities of the region. It is one of those low lying rich counties that border the Wabash River from source to mouth, full of thick woods and swamps, with occasional patches of open prairie land. The Wabash Valley has never been botanically explored and a rich harvest is waiting to be reaped. Along the lower Wabash we seem to run into a flora almost southern in its nature. Swamps filled with the Bald Cypress (*Taxodium distichum*, Richard.), with Cypress "knees" standing up eight or ten feet in height cover for acres the lower Wabash Valley. In Carroll County we found growing by the acre *Napæa dioica*, L. It was bordering a large swamp, rising four to five feet in height, its large clusters of white flowers and huge palmately parted leaves making it a very marked plant. *Psoralea Onobrychis*, Nutt. was found growing in profusion overhanging sluggish streams, its beautifully characteristic pods well developed and fixing its identity beyond dispute.

Echinacea purpurea, Mœnch. flashed on us from the fence corners, its tall showy purple heads reminding us of the near lying prairie. Beside it was *Lepachys pinnata*, T. & G. of similar *habitat*. *Silphium terebinthinaceum*, L. and *S. perfoliatum*, L. invited us to try to reduce to herbarium shape their rough ungainly forms and *Nabalus crepidineus*, DC. nodded its many heads and reminded us of a wilted *Vernonia*. We hope soon to have some rare material from this rich valley and shall give our botanical friends all the information concerning it we can.—ED.

Contributions of notes are desired from all botanists, and such notes as are accepted will appear in the *number of the Bulletin issued immediately after their receipt*, as it is not intended to limit the size of the paper to four pages if the amount of matter will justify an enlargement.